

To: Couillard, Lon[Lon.A.Couillard@milwaukee.gov]
Cc: Porter, Andrea[porters.andrea@epa.gov]; Elmore, Steve B - DNR[Steve.Elmore@wisconsin.gov]; Nelson, Mark A - DNR[Mark.Nelson@wisconsin.gov]; Constantine Tsoris[Constantine.tsis@wisconsin.gov]; Janczy, Joseph J - DNR[Joseph.Janczy@wisconsin.gov]
From: Deltoral, Miguel
Sent: Fri 4/3/2015 11:32:05 AM
Subject: Re: Milwaukee proposed lead sampling study for Connection of Service (COS) to residents in 2015

Hi Lon,

See responses below. If you have any additional questions, I will be working until 1:30pm today, so please feel free to call.

Miguel A. Del Toral
 Regulations Manager
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 Phone: (312) 886-5253

From: Couillard, Lon <Lon.A.Couillard@milwaukee.gov>
Sent: Thursday, April 2, 2015 03:06 PM
To: Deltoral, Miguel
Subject: FW: Milwaukee proposed lead sampling study for Connection of Service (COS) to residents in 2015

Miguel, our staff here at MWW discussed the items in your attached document, and we have some questions and clarifications; On page one, 5th bullet point down - most of those items are trace metals, but we wish to clarify the P and Cl -- do you mean Phosphorus and Chloride? Or something else?

MDT: Phosphate (PO₄) and Chlorine residual. I should have clarified that these do not need to be collected at every site since Milwaukee should already have plenty of distribution system data for these parameters, but the data set evaluated used should be representative of the areas where sequential sampling is being conducted.

We do not currently have the ability to analyse for Cadmium and Calcium by AA Spectrophotometry - how critical are they?

Your list in the 5th bullet point down would require both furnace and flame AA Spectrophotometry methods – we could simplify the analysis workload greatly by just doing furnace-method metals – is that acceptable to you for this study?

MDT: Apologies, I should have explained the recommendations better.

I added the Cd recommendation based on the presence of up to 2% lead by weight in the zinc coatings of (pre-2014) galvanized iron pipe in the most commonly used western grade zinc. Cd is a common contaminant in the zinc coatings, so co-occurrence of the Cd/Zn/Pb in the interior plumbing segments of the profiles could provide useful information on the potential contribution of lead from the zinc coating on the galvanized pipe itself. This would help to better characterize the relative contributions of lead from the various plumbing sources. What we found in our sampling at some homes with galvanized pipe was that trace levels of Zn were found in all sequential samples (Liters 1-12) even though there is no Zn in the lead service line, indicating that the water in every sample was picking up some contribution of metals from the internal plumbing as it passed through on the way to the kitchen tap. If you are not able to do the Cd, I would recommend that the sample sites be thoroughly flushed the night before, so that at a minimum we can see what the initial (baseline) lead levels are in the interior plumbing.

Calcium is expected to be found in the lead pipe scale, so it would be useful for comparing the amount of calcium in the water to the calcium in the lead pipe scale to evaluate the effectiveness of the scale formatoin and composition of the pipe scale. Existing Ca data collected from the distribution system may be sufficient for that if you have it.

Regarding bullet point # 6 - MWW recently completed work for WRF Project # 4569 -- Effect of Sequential Sampling Techniques for Lead & Copper Monitoring. We commonly refer to this as the EE & T study.

Although our MWW sample size was small (six) sites, we found that a 12-Liter sequential sampling protocol, based on calculated volume, extended out past the water main/LSL connection in all cases.

We therefore believe that a 12-Liter sample protocol is sufficient – what do you think?

MDT: I was trying to be sensitive to the need for simplicity and consistency. The length of the interior plumbing from the kitchen tap to the inlet of the service line varies considerably as does the length of the lead service lines. There is nothing magical about 12 or 15 samples, other than I was trying to use a consistent number across all sites, given the variability in internal plumbing and service line lengths. The important thing is to ensure that the entire length from the kitchen tap to the main is captured in the sampling, so however many samples that requires would suffice. If 12 samples would get into the water main that would be fine. If there are longer pipe sequences at some sites, additional samples could be added as needed for those sites.

From: Deltoral, Miguel [mailto:deltoral.miguel@epa.gov]
Sent: Wednesday, April 01, 2015 3:21 PM
To: Couillard, Lon
Cc: Elmore, Steve B - DNR; Constantine.tsoris@wisconsin.gov; Nelson, Mark A - DNR; Porter, Andrea; Poy, Thomas; Joe Janczy
Subject: Re: Milwaukee proposed lead sampling study for Connection of Service (COS) to residents in 2015

Sorry, I forgot the other attachment.

Miguel A. Del Toral

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From: Deltoral, Miguel
Sent: Wednesday, April 1, 2015 03:15 PM
To: Couillard, Lon
Cc: Elmore, Steve B - DNR; Constantine.tsoris@wisconsin.gov; Nelson, Mark A - DNR; Porter, Andrea; Poy, Thomas; Joe Janczy
Subject: Re: Milwaukee proposed lead sampling study for Connection of Service (COS) to residents in 2015

Hi Lon,

Attached are my thoughts and recommendations. They are consistent with what you are thinking, except that I would recommend 15 sequential samples because the lines are being disturbed at the far end near the main so you want to make sure the sampling catches that. Please feel free to call anytime if you have any questions.

Miguel A. Del Toral

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From: Couillard, Lon <Lon.A.Couillard@milwaukee.gov>
Sent: Tuesday, March 31, 2015 03:09 PM
To: Deltoral, Miguel
Subject: Milwaukee proposed lead sampling study for Connection of Service (COS) to residents in 2015

Miguel, I understand you have been in recent contact with Abigail RE: her AWWARF project, and you are aware that Milw Water Works is a participant in that.

In addition, MWW is planning to conduct a lead sampling study for Connection of Service (COS) to residents in 2015 during our main replacement/relay projects, for those homes with identified lead service lines. The COS procedure is described as a snipping of the LSL at the existing coupling or corporation, then re-connection of the LSL to the new main using a brass/copper flange and clamp.

MWW proposes to recruit a pool of volunteers from homes in each main-relay project area, and have them collect three sets of samples to be analyzed for lead & copper; 1) pre-construction, 2) within 72 hours of re-connection, and 3) after approx. 30 days post-completion. Each set of samples would be a set of 12 sequential 1L samples, collected with aerators on, after the minimum 6 hours stagnant period.

We are asking for your input and approval to proceed with this project. In addition, we look for feedback as to whether homeowners should be encouraged to flush their home plumbing after re-connection, but before the 72-hr sampling, with the aerators off.

Your thoughts on this are appreciated.

Lon A. Couillard

Water Quality Manager

Milwaukee Water Works

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